

Rawlsian Land Reform with Human Capital: A Social Inclusion Process for the Landless ‘Underdog’

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Abstract – *Focusing on the concept of Rawlsian-welfare-analysis, we evaluate land reform in a context of human capital. This theoretical and conceptual analysis is applied to the question of equity and social inclusion: our model previews that latifundia will be divided creating either mesofundia or microfundia. The way the social optimum is achieved, and the way we express the social welfare function is new to the literature, as far as we know, no Rawlsian including land reform has been tempted. The Rawlsian welfare function, in a context of uncertainty, corresponds to the max-min criteria. This means that if land is given to the social underdog, then his welfare improves, but the amount of land must be large enough in order to get him out of the poverty trap (human capital defined) threshold. The iteration of this principle to the successive “underdogs” creates the notion of a dynamic social including Rawlsian land reform.*

Equity can be improved if we look by the planner’s eyes in a Rawlsian way.

This analysis then can be expanded to free market analysis, using the Second Fundamental Theorem of Welfare Analysis and market prices can be retrieved by the Negishi procedure.

We also present a criticism to Rawlsian land reform, in the form of the least state interventionism, an utmost version of the liberal paradigm, the anarchic one - Nozickian land reform.

Keywords - *Land reform, Human capital, Rawlsian welfare, Difference principle, Ignorance veil, Nozickian land reform.*

1. Introduction

The process of land reform has been analysed from wide perspective, namely from a historical analysis setting. In a previous study, I analysed the theoretical relation between the influences of land reform in economic growth, using a human capital threshold setting. Starting from a static background I showed that land reform is only a viable welfare enhancing policy if a pro-competition effect dominates over a pro-learning effect. The pro-competitive effect results from passing from a large *latifundia* holder to

multiple competitive *minifundia* and the pro-learning effect results from the marginal cost reduction due to the large land owner higher human capital intensity relatively to the less skilled or illiterate *minifundia* holders - for more details see Rocha de Sousa (2005). This previous paper also had a dynamic background using Arrow (1962) *learning by doing* model and another model by Jovanovic (1982) which made use of the theory of the firm to establish the dynamic conditions for successful land reforms. For empirical evaluation of land reforms programs, namely the applied case of NorthEast (NE) Brazil, do see Rocha de Sousa et al. (2004). To establish a comparative analysis between Portuguese and Brazilian land reform, starting from a general empirical typology of land reform do see Branco and Rocha de Sousa (2006).

The focus of land reform with human capital is quite new to the literature. Gerbasch and Siemers (2005) is also a contribution to the land reform analysis with human capital using (OLG) Overlapping Generations models. My paper focuses on the welfare analysis, namely on the redistributive land reform using a human capital context, using a Rawlsian social welfare function.

Nevertheless, I believe that this social approach using the Rawlsian function, within the land reform human capital setting, is new to the literature.

2. Rawlsian welfare analysis

The Rawlsian welfare criteria states that there is only a Pareto movement if the welfare of the worst individual (‘underdog’) improves and the others agents stays the same. As usual in the economic literature, this is the max min (U_i) criteria.

As far as we know this setting has never been applied to land reform with human capital.

When we have redistributive land reform, we are assuming that a 'Planner' redistributes latifundia holdings to *mesofundia* and *microfundia*.

We are assuming that there is a human capital threshold to escape from a poverty trap.

But here starts our Rawlsian human capital land reform Paradox.

The landless underdog has no land, when he receives land, naturally his welfare improves, because we are assuming that land is a normal good. But now we have a paradox, if his income increases, but nevertheless his income gain is not enough to take him off the poverty equilibria, his 'true' global welfare doesn't increase.

So, what we find is a human capital land reform which isn't really social including because, even the underdog improves slightly, this doesn't take him off the poverty line. Thus, the net total income effect even though positive is not enough.

How can we solve this paradox?

Is it an apparent paradox?

The solution comes from the state redistributing enough land to *mesofundia* and *microfundia* in a sense, that allows them both *minifundia* holders to get out of the poverty line ('threshold' human capital line). Therefore, this establishes a 'new' criteria for human capital land reform:

In order to have a social including process of land reform with human capital:

The social planner's redistributive role must pass by a redistributive land reform in order to promote a Pareto improvement, so the land attributed to the minifundia takes them off the poverty line (this is they must exceed the income 'threshold' related human capital)

One should note that by the **Second Theorem of Welfare Analysis**, if we have a Pareto Optimum, we can recover the market equilibrium. So, we can by this theorem retrieve a Market friendly approach to the Social Rawlsian approach. The Negishi approach recovers the prices to be applied in the market approach to achieve a social optimum.

Rawls (1971)[1993] in his opus magnum, A theory of Justice, first considers in his first part of the book the theory of justice, introducing the concept of ignorance veil and the difference principle as a principle with equity considerations to install a social inclusive society. In his second part of the book he considers the role of institutions in the formation of the precluded justice principle.

In the third part of the book he analyses the ends of his theory.

The main objective of his book is to discuss and lay the foundations of a more just and equitable society. As one proceeds along this book, it's only near the final that we find the first reference to a peasant society. This is very interesting indeed, because this might mean that (ibidem) also considered that his theory might be applied to agricultural societies. Nevertheless, as far as I know, no further theory of Rawlsian Land reform has been developed. So, this is the main contribution of this paper. Besides this fact, this brief quote from (ibidem) himself, might justify that this is not a mere "elucubration of a theoretical desire", but is itself hopefully a valid extension and application of Rawlsian theory to the question of the land.

3. The difference principle and the ignorance veil: a brief discussion

The **difference principle** corresponds to the max-min criteria only in a context of uncertainty. That's why most economists tend to reduce the principle of difference to this rule.

Rawls (1971)[1993, p. 71] gives the following example, in an uncertain situation:

Table 1. Interpretations according to different principles

«Benefits to all»

«Functions to which all have equal access»	I. EFFICIENCY PRINCIPLE	II. DIFFERENCE PRINCIPLE
Equality as existence of careers opportunities, open towards each one competences	Natural freedom system	Natural aristocracy
Equality as equitable opportunities	Equality in a liberal sense	Democratic equality

Source: adapted from Rawls (1971)[1993, p.71]

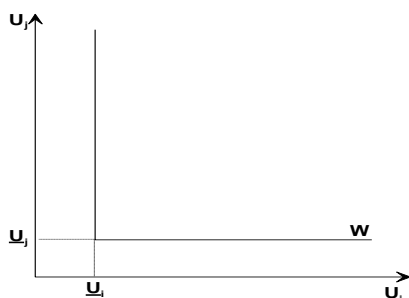
Figure 1. The Rawlsian welfare function

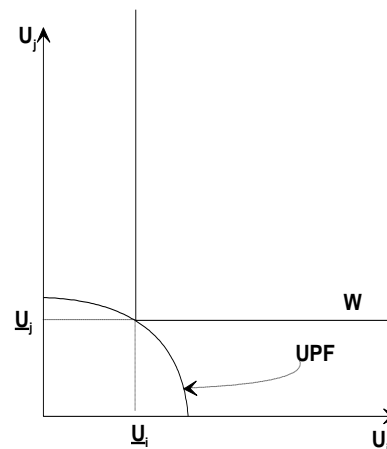
Figure 1, presents the social Rawlsian welfare function. The expansion path in the utility space (for two agents) is a line which starts at the origin and passes through \underline{u}_i and \underline{u}_j , which defines respectively (for each 'underdog') the minimum amount of utility to escape from a poverty trap.

Next on Figure 2 we join the preference map with the possibility utility frontier in order to attain a social optimum for the two 'underdogs'. As was previewed before, the optimum lies in the "corner" of the L preference representation, at the highest level of the utility possibility frontier (UPF).

Table 2 illustrates the gains and losses for a situation which isn't a strategy game. We have three circumstances (C) and three decisions (D).

The Max-min rule makes us choose the 3rd decision, because the maximum of the worst result in the case of

decision 3 (D3) is 5, and in decision D1 is a loss of 7 and in D2 is a loss of 8.

Figure 2. The Rawlsian welfare optimum**Table 2.** Choices and welfare under uncertainty circumstances

Decisions	C1	C2	C3
D1	-7	8	12
D2	-8	7	14
D3	5	6	8

Source: adapted from Rawls (1971)[1993, p.133]

Nevertheless, the difference principle is more general as it includes the max-min criteria (as we know short for *maximorum-minimorum*), and in the context of certainty to improve the welfare of the least well-off might not be the more social desirable rule - see Rawls (1971)[1993].

One of the other important questions (ibidem) addresses is the *ignorance veil hypothesis*.

Stated briefly, the hypothesis just says that one individual before being born does not "know" in which family he will belong. The aim of this operational hypothesis is to justify an equitable point of departure to all the society. If not, there will be a bias, poor will be born poor and rich will be born in rich families. So, what he tries to accomplish, with this hypothesis is a kind of **ex-ante "neutrality" principle**, in a sense that **ex-post** there might be **upward social mobility** precluded by state intervention, using the Rawlsian welfare criteria.

4. Putting in what is out? The excluded landless.

One must address an active social including human capital policy. Solidarity promoted by the state, as far as it increases the level of human capital, it increases the threshold of utility (income generated by a certain given amount of land) for the underdog to escape the poverty trap.

Figure 3. Active social including human capital policy

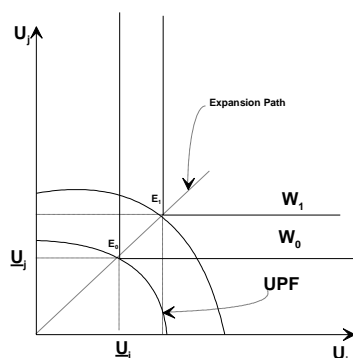


Figure 3 depicts graphically a Pareto movement due to the promoted social including policy.

As one proceeds along the expansion path generated by the pro-active inclusive land reform human capital policy, one sees that each underdog sequentially increases his poverty-stricken threshold to get out of the immersing income trap. As this process continues the lowest (from W_0 to W_1 in the figure 3) and the mean level of welfare will increase, because even if we have a skewed distribution of income (related to the human capital threshold), if the lowest levels of income are sequentially increasing then ceteris paribus, and sooner or later, the mean income (generated by the level of human capital) will definitely increase. Thus, as this is a sequential process each agent might escape poverty more likely.

5. Nozickian land reform and criticisms to Rawlsian land reform

Nozick (1974)[1997], one of the forerunners political philosophers of the XX century, also from the Harvard tradition, in *Anarchy, State and Utopia*, raised a severe criticism to his colleague Rawls' *Theory of Justice*. His main view was that, following the anarchic tradition, the State should be minimal, and thus its intervention should, if ever happened, it should be only when there was no other way out to solve the problem.

Making the comparison to our Rawlsian Land reform, we did an aggregate welfare analysis using the planner's view, but we tried to resolve this criticism (of using the

planner) by using the Negishi procedure. This procedure just states by the Second Fundamental Theorem of Welfare Economics, that a planner's aggregate allocation can be retrieved by the market, if preferences are well behaved and functions are continuous.

Here starts our problem: Does Rawlsian welfare function comply with the Negishi setup?

The Rawlsian aggregate welfare function is of the Leontief type (the conventional 'L' representation familiar to most economists). Even though we can't have a tangency condition between the social indifference curve and the social utility possibility frontier (thus enabling some sort of price ratios), if the utility possibility frontier is smooth (as we presented it in figures 2 and 3), then due to the smoothness of the utility possibility frontier, the price ratio will be unique and thus will define a unique equilibrium point for the two Rawlsian underdogs. Thus, the market will retrieve a unique price which will yield the same result as a Rawlsian planner welfarist land reformer.

But what if the Utility Possibility Frontier (UPF) is not smooth?

Then there won't be a unique expansion path for the Rawlsian land reform planner, or at least if the expansion path exists, it might be "not well behaved". Thus, instead of the linear expansion path I presented, we could have multiplicity of equilibria, or, even if is unique, "badly" behaved expansion paths.

Thus, we precluded a Rawlsian Land Reform (even though using a planner's welfarist approach) equivalent to a market approach and raised a criticism, which enables us to talk about a Nozickian Land Reform – Land should be redistributed by the State, if only there is no other way out. So, Nozickian Land reform comes, as an utmost liberal tradition, thus in the anarchist tradition, as a market solution to land reform. Hayek (1960)[1993] also stressed the role of markets in achieving better results than planner's.

One must stress that what we are talking about, when we proceed to do a land reform, is an institutional change. As North (1990)[2004] has pointed out, institutions are key factors to economic change, because their well-functioning is a key factor for economic evolution. Thus, land reform, independently of being Rawlsian (in the sense of improving 'underdogs') or Nozickian (in the sense of having the least state intervention), is itself a process of institutional economic change. Its future should be determined by the people, as responsible as they are in the accountable democracies. Their design should be done within society's interaction and with the people's participation, because as we know by historical experience, as the people get more incentives, the aggregate outcomes will be better. Nevertheless, we stress that the criteria for justice as

fairness is extremely important. In too simple words, it is not only the size of the cake to split that matters, but also the rules and its final division.

6. Concluding Remarks

This paper presented a land reform in a Rawlsian context, within the framework of human capital models. This is the main contribution of the paper. The difference principle, the max-min principle as is familiar to economists in an uncertainty context, is applied to define a social including Rawlsian land reform: the social “underdog” must be given a plot of land sufficiently large enough to allow him to escape the poverty (human capital defined) threshold. The iteration of this principle to the successive “underdogs” creates the notion of a dynamic social including Rawlsian land reform.

We also presented a criticism, which we called it Nozickian land reform, thus the least interventionism state rule, an utmost anarchic rule, which shall deserve further study. To comply these two contradictory views, we stressed the view of NORTH of land reform as a continuous evolving institutional set-up.

As a direction for future improvements we would like to proceed in the expected way, i.e. by questioning the way equity and efficiency within land reform are compatible (as it was considered in this paper).

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